

# **SIDAC**

**Supportability Investment Decision Analysis Center**

Contract Number F33657-92-D-2055  
CDRL Item A009, Data Item Mgmt-80057  
Report No. SID/MR-94/0041  
(Unclassified)

## **SID12183**

# **TASK ASSIGNMENT PLAN**

for

## **Enhancements to FAMMAS**

Prepared for

HQ USAF/LGSI  
1030 Air Force Pentagon  
Washington, DC 20330-1030

Prepared by

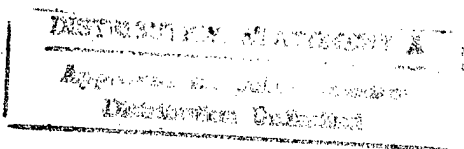
Synergy, Inc.  
1763 Columbia Road, NW  
Washington, DC 20009-2834

17 November, 1994

Submitted by

SIDAC  
5100 Springfield Pike, Suite 110  
Dayton, Ohio 45431-1231

**DTIC QUALITY INSPECTED 4**



# **19970128 031**

# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1213 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget. Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 28 October 1994	3. REPORT TYPE AND DATES COVERED Task Assignment Plan	
4. TITLE AND SUBTITLE  Task Assignment Plan for Enhancements to FAMMAS			5. FUNDING NUMBERS  Contract No. F33657-92-D-2055  Delivery Order No. 0056	
6. AUTHOR(S)  Seevers, Tim S. Reed, Raymond L.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)  Synergy, Inc. 1763 Columbia Rd, NW Washington, DC 20009			8. PERFORMING ORGANIZATION REPORT NUMBER  SID12183	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)  HQ USAF/LGSI 1030 Air Force Pentagon Washington, DC 20330-1030			10. SPONSORING/MONITORING AGENCY REPORT NUMBER  SID/MR-94/0041	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT  Approved for Public Release; Distribution is Unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)  This Task Assignment Plan expains how Synergy, Inc. will research, develop, and incorporate and alternative method in Funding/Availability Multi-Method Allocator for Spares(FAMMAS) for predicting aircraft readiness rates (at the mission, design, series [MDS] level) based on the methodology currently in use in a similar model developed by the Department of the Navy.				
14. SUBJECT TERMS  Funding Availability Multi-Method Allocator for Spares(FAMMAS), Weapon System Program Assessment Review(WSPAR), Sustainment Executive Management Report(SEMR)			15. NUMBER OF PAGES 4	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	



Synergy, Inc.  
1763 Columbia Road, NW  
Washington, DC 20009  
202-232-6261  
FAX: 202-232-8359

28 October 1994

Maj Randy Moller  
HQ USAF/LGSI  
1030 Air Force Pentagon  
Washington, DC 20330-1030

Dear Maj Moller:

Contract F33657-92-D-2055  
SIDAC Task No. 67  
Delivery Order No. 0056  
CDRL A009, Data Item MGMT-80057

Enclosed is the Task Assignment Plan for *Enhancements to FAMMAS*, as required under the above-referenced contract.

If you have questions, please contact me at 202-232-6261.

Sincerely,

A handwritten signature in black ink, appearing to read "James A. Lutz", is written over a horizontal line.

James A. Lutz  
Task Leader

JAL/las

c: DCMAO (Mr. Leon Sulton) Letter Only  
SIDAC (Mr. Heston Hicks)



Contract No. F33657-92-D-2055/0056  
CDRL A009, Data Item DI-MGMT-80057  
Report No. SID/MR-94/0041

(Unclassified)

## **TASK ASSIGNMENT PLAN**

for

**Enhancements to  
FAMMAS**

Prepared for

HQ USAF/LGSI  
1030 Air Force Pentagon  
Washington, DC 20330-1030

28 October 1994

Prepared by

Synergy, Inc.  
1763 Columbia Road, NW  
Washington, DC 20009-2834

Submitted by

SIDAC  
5100 Springfield Pike  
Dayton, Ohio 45431

Contract No. F33657-92-D-2055  
SIDAC Task Number 67  
CDRL A009, Data Item DI-MGMT-80057

(Unclassified)

**TASK ASSIGNMENT PLAN**  
**on**  
**ENHANCEMENTS TO FAMMAS**

Prepared for

HQ USAF/LGSI  
1030 Air Force Pentagon  
Washington, DC 20330-1030

28 October 1994

Prepared by

Synergy, Inc.  
1763 Columbia Road, NW  
Washington, DC 20009-2834

Submitted by

SIDAC  
5100 Springfield Pike  
Dayton, OH 45431-1231

# **TASK ASSIGNMENT PLAN on ENHANCEMENTS TO FAMMAS**

## **INTRODUCTION**

Synergy will fulfill the HQ USAF/LG requirement for logistics study and analysis support to develop and maintain a logistics capability assessment model that will assess the peacetime readiness expected as a result of past, current, and projected investments in spare parts (buy and repair), personnel, depot overhauls, modifications, and consumables. Synergy will research, develop, and incorporate an alternative method in Funding/Availability Multi-Method Allocator for Spares (FAMMAS) for predicting aircraft readiness rates (at the mission, design, series [MDS] level) based on the methodology currently in use in a similar model developed by the Department of the Navy.

## **GOALS AND OBJECTIVES**

Synergy will modify the FAMMAS model, providing an alternative methodology for predicting aircraft readiness rates and enabling the Air Force to perform the peacetime logistics assessments in support of the Weapon System Program Assessment Review (WSPAR), Sustainment Executive Management Report (SEMR), and Program Objective Memorandum (POM) programs, as well as other logistics assessments. Synergy will test, verify, and validate this alternative methodology in the FAMMAS model.

## **TECHNICAL APPROACH**

A kickoff meeting will be held in mid to late October to start this project. The purpose of the meeting will be to allow introductions, review the Statement of Work (SOW) tasks, and agree on a project schedule.

Mathtech, the designer of the Navy readiness model, will provide Synergy with the data and format requirements of the Navy model to guide Synergy's acquisition of similar Air Force data. Synergy will then gather the data from the Air Force and provide them to Mathtech in flat (ASCII) files. Mathtech will review the Air Force data for completeness and integrity, then organize the data in a form suitable for statistical analyses. Statistical analyses will be conducted to explore data variation by fiscal year, the interrelationships between candidate mission capable (MC) resource drivers, and the existence of outliers.

In accordance with the methodology employed by Mathtech's Navy model, preliminary regressions at the fleet-wide level will then be undertaken for the Air Force. This step will serve as a proof-of-concept for the far more extensive modeling at the MDS level. The resultant preliminary fleet-wide regression model will be reviewed for accuracy and technical considerations related to the regression technique itself and its applicability for individual Air Force Weapon Systems. Synergy will evaluate the accuracy of the output from the regression-based algorithm through comparisons with the output from the current FAMMAS algorithm. Synergy will present the results to the Air Force to determine the extent to which improvements and modifications can be made to the regression approach and the existing FAMMAS model.

## **PROJECT SCHEDULE AND MILESTONES**

The Work Breakdown Structure in Figure 1 represents Synergy's proposed timeline for accomplishing the tasks associated with the SOW. Synergy will apply the most experienced personnel on this project and will produce the best products possible within the time and funds allocated by the government. The Synergy program manager will prioritize the efforts for the tasks in order to make the most efficient and effective use of available resources.



## **DELIVERABLES**

The following is a list of deliverables that will be submitted for the efforts performed under the task:

- (1) Final technical report (CDRL A001) on the task to include a complete description of statistical analysis performed on the Air Force data, the formulation of the algorithm, the evaluation and comparisons of the algorithm, and the implementation of the new algorithm in FAMMAS.
- (2) Periodic progress and status reports (CDRL A004) submitted every thirty (30) days throughout the duration of the contract (CDRL A004). These reports will keep the SIDAC COTR informed of the progress of the task on a monthly basis.
- (3) Task Assignment Plan (CDRL A009). The plan presented in this document, which covers the objectives, technical approach, and schedule for performance of the SOW.

## **PROJECT STAFFING AND EXPERIENCE**

This project will be staffed with extremely well qualified personnel. The following paragraphs summarize the education, capabilities, and experience of key personnel.

Mr. James A. Lutz, Program Manager, Ph.D. program in Mathematics and graduate studies in operations research and statistics. He has more than 20 years of experience in logistics management, capability assessment, program and budget analysis, and operations analysis. Mr. Lutz serves on Synergy's Operations Management Committee, which directs the performance of work on all Synergy contracts. He specializes in the development and application of quantitative models for analysis of policies in logistics management, budgeting, capability assessment, and reliability and maintainability.

Mr. Raymond L. Reed, Sr. Logistics Management Specialist, M.S. Organic Chemistry. Mr. Reed has more than 20 years experience in Air Force logistics. His areas of expertise include logistics management, tactical systems analysis, and acquisition management. He currently serves as the program manager for development and implementation of new parametric/interactive models, designed to perform logistics resource assessments of the Air Force air mobility and air combat weapon systems.

Mr. William E. Faragher, Sr. Scientist, M.A. Mathematics. Mr. Faragher has more than 35 years experience in operations research and logistics analysis. He is responsible for the software development for a suite of logistics assessment models designed for estimating the impact of budget decision on aircraft readiness and sustainability. He directed the development of a data base management system that imports data from a variety of sources and generates a set of output files for use in Synergy-developed logistics assessment models.

Mr. Glenn L. Archer, Jr. Logistics Management Specialist, B.A. Economics. Mr. Archer is the supervisor for all Operations and Management (O&M) assessments for Air Force, Army, and Navy. He is responsible for completing the development of the Engine Logistics Assessment Model, which provides the Air Force with projections concerning the health of its engines inventory. He is responsible for designing, testing, and delivering this model to HQ USAF/LGSI and SA-ALC/LPF.



## **POINT OF CONTACT**

Maj Randy Moller  
Logistics Analysis Team  
HQ USAF/LGSI  
1030 Air Force Pentagon  
Washington, DC 20330-1030

Voice: DSN 225-6730; Commercial 703-695-6730  
Fax: DSN 227-6787; Commercial 703-695-6787